Volume 4 Number 1 Winter 1988

Common Bond

A newsletter on maintenance and preservation for owners of architecturally significant religious buildings

Contents

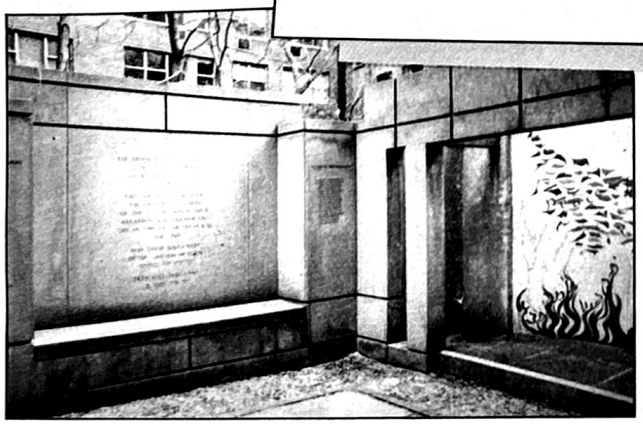
Preservation Profile	2
Purchasing Inexpensive Fuel Oil	5
Ask the Technical Preservation Services Center	8
Technical Services	11
Helpful Publications	11
In Brief	12

Dear Reader:

Considering the expense involved in repairing and restoring aging buildings, some might wonder why a congregation would willingly become the owners and caretakers of an 1859 landmark property. The Brotherhood Synagogue in Manhattan, featured in this issue's "Preservation Profile", found a new home in a former Friends Meeting House and faced the challenge of both restoring and adapting this building to serve the needs of its congregation and community.

This April there will be an unusual opportunity for religious institutions to gather together and learn about caring for their historic properties. Sacred Trusts is the first national conference to focus solely on the preservation of architecturally significant churches and synagogues. Practical problems inherent in religious architecture and strategies for planning and financing restoration work are on the conference agenda. For detailed information on this exciting program, see "Technical Services for Religious Property Owners."

The Rev. Thomas F. Pike
Chair, Advisory Committee



The Brotherhood Synagogue, New York, New York

Ask the Technical Preservation Services Center

Question:

A portion of our building is covered with a thick growth of ivy; is it harmful? How can it be removed?

Susan Hanyen, Elder
New Utrecht Reformed Church
Brooklyn, New York

Answer:

Unfortunately, there is very little to be said in favor of ivy on buildings. Ivy cannot only cause serious damage to the masonry walls and wooden structural members of a building, but it is a mischievous plant which hides the evidence and extent of its destruction. Because the damage ivy causes is not usually visible, problems can exist for some time before they are detected, and thus be far more difficult to correct.

The use of vines on buildings became prevalent in the latter half of the 19th century. Ivy vines were an especially popular treatment for religious structures because of their Romantic associations with the half-ruined churches of medieval Europe. The two types of vines commonly found on religious structures in this country are Boston Ivy and English Ivy. English Ivy (Figure 1), found mainly in the middle-Atlantic and southern states, attaches itself to masonry through an invasive root system which seeks out small imperfections in masonry and mortar joints. Boston Ivy (Figure 2), as the name suggests, is

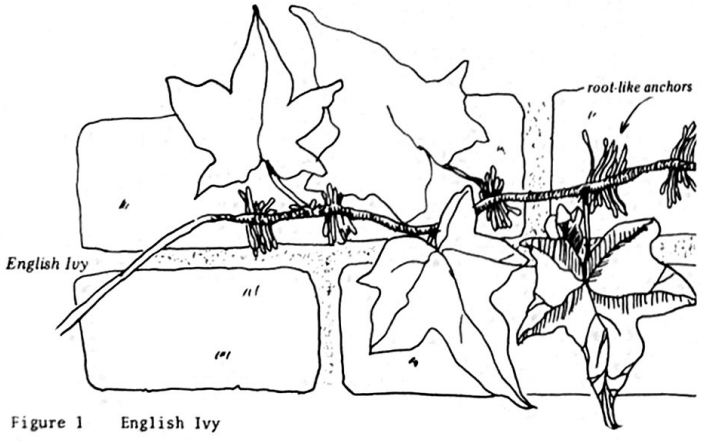


Figure 1 English Ivy
Drawing: Patti Allison

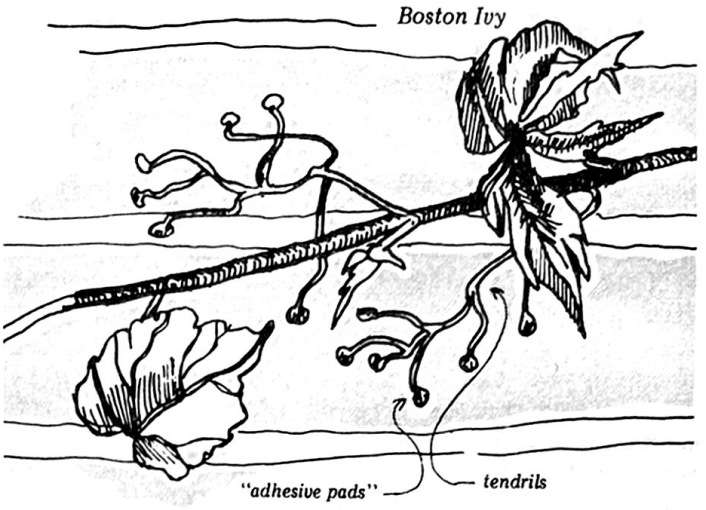


Figure 2 Boston Ivy Drawing: Patti Allison

found primarily in New England and the middle-Atlantic states. Unlike English Ivy, Boston Ivy looses its leaves in the winter in a brilliant flash of fall color. Boston Ivy clings to buildings using tendrils which end in sticky, disc-shaped pads. After these tendrils attach themselves to a building, the pads dry out creating a mortar-like bond between the plant and the masonry. Both types of ivy are usually planted to climb masonry wall surfaces. However, in buildings which combine masonry and wood in their construction, the vines often invade the wood structural system as well.

The principle problem with ivy is its tendency to hold moisture against the wall of the building. Ivy's dense foliage prevents the normal action of the sun from drying the wall surface after a rainfall. In addition, ivy retains moisture in its leaves and stems. As moisture accumulates, rot can occur in various wooden elements such as window and door frames, and roofing timbers. Serious damage can result if this goes unchecked.

The accumulation of moisture associated with ivy will also cause damage to the structural integrity of masonry walls. The penetration of roots and tendrils into the tiny cracks commonly found in masonry construction increases surface exposure to seasonal freeze/thaw cycles. As a result, small cracks enlarge, causing bricks or stones to spall, break apart and eventually dislodge themselves from the surface. Both Boston Ivy and English Ivy also

Figure 3 Photo: Courtesy of the National Capital Region Office of the National Park Service

secrete an enzyme which attacks the strength of the lime in the lime-based mortar used in almost all masonry buildings constructed before 1920. This enzyme causes the mortar to disintegrate, leaving only sand behind. In severe cases, the ivy which destroys the mortar is the only thing left holding the building together.

Climbing vines like ivy are strong, heavy plants. Vines can strangle and dislodge gutters and drainpipes, and can interfere with the operation of doors and windows. Vines will often work themselves between the wall and window frames, dislodging the window frame in the process. Vines can even work themselves between the exterior wall and the interior wall finish, and eventually destroy the interior plaster (Figure 3).

A thick growth of ivy also attracts wild life which will happily set up housekeeping among the vines. The damage caused by bird and animal debris (droppings, nests, etc.) can be considerable. In addition, ivy attracts various types of insects such as the wood boring beetle. If these insects enter the building, serious structural damage can occur.

Fortunately, ivy is fairly simple to remove. Depending upon the size and height of your building, it can usually be accomplished by members of a maintenance staff. If scaffolding is required to reach vines on the upper portions of a building, make sure you contract for the rigging of scaffolding with a licensed individual or company. If your institution cannot undertake the removal of the ivy as an in-house

project, most landscape maintenance contractors will do this type of work.

Ivy vines should first be cut at the base and then left to die over a period of a few weeks. (Many institutions cut their vines in the fall and leave them over the winter.) After the vines have died, gently remove them from the wall, being careful not to dislodge loose masonry. Be especially careful with English Ivy, which has a deep root system. Make sure to pull out the stumps of the vines and watch for new shoots which may grow from old roots not entirely destroyed. After ivy is removed, the wall of a masonry building should be carefully inspected by a qualified mason experienced in restoration work; repairs to the surface of the masonry and any repointing, if necessary, should then be executed. The removal of ivy may leave a spotty residue on the wall. On masonry surfaces, this is usually not noticeable. On wooden and stucco surfaces, however, the discolored areas may be highly visible. This problem can be remedied by painting the affected areas.

There are a few instances where an institution must keep its ivy. Occasionally, in landmark properties, ivy is cited as an important part of the building's architectural and historical character. In other instances, the vines may be a memorial and legal restrictions may exist.

In such cases, a program of intensive maintenance will be necessary in order to minimize damage to the building. First, the ivy must be kept away from the walls in order to minimize the problems associated with moisture and the break-down of the mortar. The best way to accomplish this is to train the ivy to grow on light trellises placed (leaning) against the wall, which prevents the ivy from growing on the wall surface itself (Figure 4). These trellises should be designed to easily fold back and lay on the ground--vines and all--so that the walls can be regularly inspected. A close trimming of the vines in the spring, and continual pruning in the summer and early fall, will allow for the penetration of sunlight and keep the wall surfaces dry. Ivy must also be kept away from

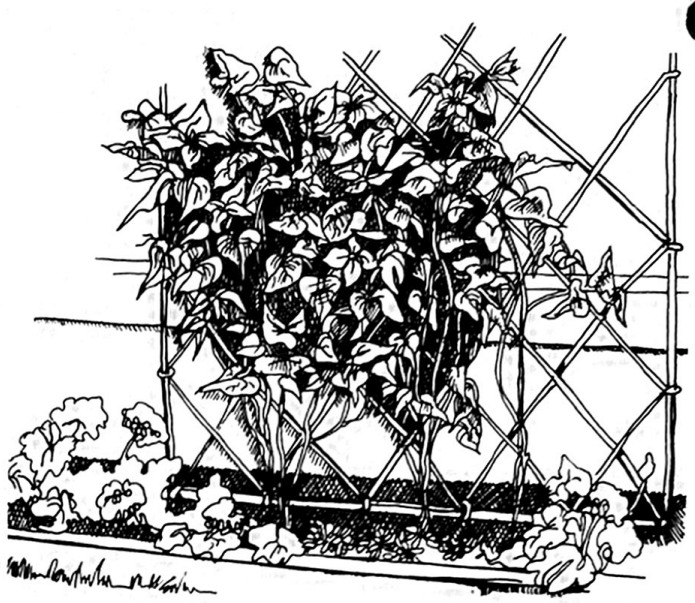


Figure 4 Wire trellis Drawing: Patti Allison

gutters and downspouts, and windows and doors.

Ivy maintenance and management requires a great deal of time and skill. In most cases, it is best to contract this work out to a landscape maintenance firm on a continuing basis rather than rely on unskilled volunteers or members of the institution's maintenance staff. This sort of labor intensive management is the only acceptable alternative to the removal of the vines, and should only be done in situations where it is absolutely necessary. In all other cases, the vines should be removed in order to maintain the structural integrity of the building fabric.

This article was written with the assistance of Dr. Paul Goeldner, Chief of Historic Resources for the National Park Service, U.S. Department of the Interior. Figures 1, 2, and 4 are reprinted with permission from the October 1981 issue of The Old-House Journal magazine.

WE WANT TO HEAR FROM YOU. PLEASE CALL THE TECHNICAL PRESERVATION SERVICES CENTER WITH YOUR QUESTIONS: (212)995-5260. ■